



# Karsten Knese

## Curriculum Vitae

*Hard-working, flexible Robotics Engineer with a strong profession in clean code development; seeking new challenges to foster autonomous devices with powerful hardware and artificial intelligence; Passionate and goal oriented team player*

*#Robotics, #AI, #ComputerVision, #Cloud, #WebServices, #C++, #Python, #Java, #GIT*

### Education

- 2011 - 2014 Technische Universität München (TUM)  
*Master of Science (M.Sc.) Robotics, Cognition, Intelligence*
- 2012 - 2013 Korea Advanced Institute of Science and Technology (KAIST)  
*Graduate Student Artificial Intelligence and Robotics*
- 2010 Acquisition of *Bachelor of Science (B.Sc.) Applied Science*
- 2010 Acquisition of *Bachelor of Science (B.Sc.) with Honours* given by the Open University for subject Applied Science
- 2007 - 2010 University of Cooperative Education Baden-Württemberg in combination of Karlsruhe Institute of Technology (KIT)

### Profession

#### Employer

- 2014 - now Aldebaran Robotics Paris [www](http://www.aldebaran-robotics.com)  
*Perception Team for People Detection and Interaction with Multi-Sensor Fusion*
- 2013 - 2014 PAL Robotics S.L. Barcelona [www](http://www.pal-robotics.com)  
*Master's thesis in Full-Body Motion Control of Humanoid Robots*
- 2012 - 2013 Ocean Robotics and Intelligence Lab KAIST [www](http://www.orilab.kaist.ac.kr)  
*Integrating Robot Operating System (ROS) G-SLAM and Underwater Sensors*
- 2011 CoTeSys [www](http://www.cotsys.de)  
*Interactive Humanoid Robot System based on Kuka LWR III and Matlab/Simulink*
- 2010 - 2011 Acquirer GmbH KIT Spin-Off [www](http://www.acquirer.com)  
*Java & Java-Script Developer for High Content Screening in a Virtual Cloud Environment with Scientific Linux and KVM*
- 2007 - 2010 Steinbuch Centre for Computing KIT [www](http://www.sccm.kit.edu)  
*.net Developer for Microsoft Server Solutions like Sharepoint, SCCM and App-V*

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## Certificates

- 2009 Microsoft Certified Technology Specialist (MCTS)
- 2009 Acquisition of "train-the-trainer" by the German Industrie- und Handelskammer (IHK)
- 2008 & 2009 Grid- and Cloud-Certification and part of GridKA-School team at KIT [www](#)

## Extracurricular - OpenSource

- 2014 Maintainer for ROS & NaoQi, [github](#)  
c++ and Python bridges to integrate NaoQi driven Robots into a ROS environment.
- 2013 "Stack-of-Task", CRNS-LAAS, Toulouse [github](#)  
c++ control framework for real-time redundant manipulator control
- 2009 Stipend given by Google Inc. in terms of Google Summer of Code [eclipse-wiki](#)  
*Contributor at Eclipse Community BIRT Project*

## Research & Projects

- M.Sc. Thesis "Realizing Online Self-Collision Avoidance Based on Inequality Constraints with Hierarchical Inverse Kinematics" [pdf](#)
- Project Dynamic Hand Gesture Recognition for Controlling Computer Applications with OpenCV and Python [video](#)
- Project Human Computer Interaction through Microsoft Kinect, Computer Vision and Impedance Control [video](#)
- Project Implementing Bioloid Robot for Walking and Stair Climbing [video](#)
- B.Sc. Thesis Evaluation and Implementation of an Accounting-Solution for a Private Cloud with Eucalyptus [pdf](#)
- Project Implementing an Autonomous Controlled Warehouse Logic with Lego NXT

## Publications

- 2011 D. Luetjohann, A. Shah, M. Christen, F. Richter, K. Knese, U. Liebel,  
"'scienenet' – towards a global search engine and share engine for all scientific knowledge.", Bioinformatics - Oxford Journals [pdf](#)

## Languages

- german native proficiency
- english professional working proficiency
- french limited proficiency
- spanish basic knowledge